

Giovannucci E, Tosteson TD, Speizer FE, Ascherio A, Vasey MP, Colditz GA: A retrospective cohort study of vasectomy and prostate cancer in US men. *JAMA* 1993; 269:878-882

Howards SS, Peterson HB: Vasectomy and prostate cancer: Chance, bias, or a causal relationship? *JAMA* 1993; 269:913-914

## Imaging of Pediatric Testicular Problems

THE MOST COMMON of the testicular problems for which imaging is recommended is cryptorchidism. Undescended testes can be identified noninvasively with ultrasonography, computed tomography, and magnetic resonance imaging. These modalities work best when the testis is in the groin and are least sensitive for intra-abdominal testes. Hence, testes that are palpable on a careful physical examination are most likely to be identified by imaging; those that are not palpable are most likely to be missed. Therefore, imaging for undescended testes is not clinically helpful and, in this era of limited resources, is not cost-effective.

Boys presenting with an acutely inflamed scrotum are another group for whom imaging is used to establish the diagnosis of testicular torsion. Radionuclide testicular scanning (often with pin-hole collimation) has proved reliable in detecting testicular blood flow. Color-flow Doppler studies have been used in adults and seem accurate, but thus far their reliability in prepubertal children has as yet not been established. The major drawback to any imaging study in acute scrotal inflammation is the time required to do the study. Because successful salvage of a testis in patients with testicular torsion inversely depends on the length of the time the testis has been ischemic, only if studies can be obtained within 30 to 60 minutes is their use appropriate, and then only to refute the diagnosis of torsion of the testis. If torsion of the testis is a serious consideration in the differential diagnosis, it is often best to omit confirmatory imaging studies and to proceed directly and expeditiously to surgical exploration.

Testicular tumors can be imaged with ultrasonography. The identification of a cystic lesion in the testis may result in enucleation of the lesion rather than orchiectomy. A solid lesion within or replacing the testis most likely is a tumor, and radical orchiectomy can be performed with confidence. Cystic lesions in a prepubertal testis most often represent a teratoma or epidermoid cyst, both of which are uniformly benign before puberty and therefore lend themselves to a testis-sparing procedure.

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### REFERENCES

Friedland GW, Chang P: The role of imaging in the management of the impalpable testis. *AJR* 1988; 151:1107-1111

Majd M: Nuclear medicine in pediatric urology. In Kelalis PP, King LR, Belman AB (Eds): *Clinical Pediatric Urology*, 3rd edition. Philadelphia, Pa, WB Saunders, 1992, pp 117-165

Middleton WD, Siegel BA, Melson GL, Yates CK, Andriole GL: Acute scrotal disorders: Prospective comparison of color Doppler US and testicular scintigraphy. *Radiology* 1990; 177:177-181

Shkolnik A: Ultrasonography of the urogenital system. In Kelalis PP, King LR, Belman AB (Eds): *Clinical Pediatric Urology*, 3rd edition. Philadelphia, Pa, WB Saunders, 1992, pp 13-65

## Urologic Laparoscopic Procedures

MANY UROLOGIC APPLICATIONS of laparoscopic surgery have been developed over the past several years. In particular, laparoscopic lymph node dissections for prostate cancer staging and laparoscopic varicocele ligation have been used extensively. As urologists' skill levels and instruments improve, these procedures will be further refined and new procedures developed. In turn, minimally invasive laparoscopic procedures can be compared to standard open surgical procedures with respect to efficacy and morbidity.

In patients with prostate cancer, the state of the obturator lymph nodes provides important prognostic information. Obturator lymphadenectomy, when done laparoscopically, is associated with minimal morbidity, and the yield in the lymph node harvest is comparable to an open transabdominal procedure. In patients undergoing radical prostatectomy, many urologists are now using the perineal approach after a staging laparoscopic lymphadenectomy, so patients can avoid any major abdominal incisions.

Laparoscopic varicocele ligation appears to be as efficacious as the open approach. The morbidity is similar and also minimal, but the procedure may be more advantageous in bilateral cases. In children with undescended testes, laparoscopy can be both diagnostic and therapeutic. Intersex problems can also be treated laparoscopically, for example, in gonadectomy. Female patients with stress urinary incontinence have been treated with standard open repairs (Marshall-Marchetti-Krantz or Burch) or a minimally invasive approach (Stamey or Raz procedure). The laparoscopic approach to the former procedures combines the anatomical soundness of these repairs with their minimal morbidity.

As more laparoscopic experience is gained, more complex procedures have been attempted. The results of nephrectomy, pyeloplasty, partial nephrectomy, renal cyst excision, and adrenalectomy have all been reported in initial series. Whereas the first attempt at these procedures has been associated with prolonged operative times, the experience with most investigators is rapidly increasing. Ureterolysis, ureterolithotomy, and other retroperitoneal procedures, such as lymphadenectomy for clinical stage A testis tumor, have been done.

For these newer, albeit investigational, laparoscopic procedures to become standard, they must not only be associated with equivalent or improved morbidity and efficacy, but also be cost-effective. Initial prolonged operative times and the high use of expensive disposables must be offset by the advantages of the newer procedure.

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### REFERENCES

Albala DM, Schuessler WW, Vancaille TG: Laparoscopic bladder neck suspension. *J Endourol* 1992; 6:137

Donovan JF, Winfield HN: Laparoscopic varix ligation. *J Urol* 1992; 147:77-81

Kavoussi LR, Clayman RV, Brunt LM, Soper NJ: Laparoscopic ureterolysis. *J Urol* 1992; 147:426-429